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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/553,408	09/30/2006	Joel Astruc	0595-1049	3713
<div>466 7590 02/22/2010</div> <div>YOUNG &amp; THOMPSON 209 Madison Street Suite 500 Alexandria, VA 22314</div>				
<div>EXAMINER</div> <div>PIPALA, EDWARD J</div>				
<div>ART UNIT</div> <div>PAPER NUMBER</div> <div>3663</div>				
<div>NOTIFICATION DATE</div> <div>DELIVERY MODE</div> <div>02/22/2010</div> <div>ELECTRONIC</div>				

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

DocketingDept@young-thompson.com

### Office Action Summary

**Application No.**

10/553,408

**Applicant(s)**

ASTRUC ET AL.

**Examiner**

EDWARD PIPALA

**Art Unit**

3663

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 04 November 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 15 and 16 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 15 and 16 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 23 April 2009 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB-06)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

**DETAILED ACTION**

1. This Office action is in response to Applicant's amendments and remarks of 11/04/09.  
The previous drawing objection has been withdrawn in view of the canceled claims.  
The previous rejection under 35 U.S.C. 112 1st has been withdrawn.  
Claims 15-16 are presently pending.

***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 15 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Naimer et al. (US Pat. 6,816,780 B2) in view of Pratt et al. (6,421,603).

Applicant's independent claim 15 essentially recites an apparatus for making a flight safe under instrument flight conditions and without outside instrument flying infrastructure, the apparatus being onboard (or capable of being mounted onboard) a rotary wing aircraft, comprising, means for acquiring parameters relating to the aircraft and to the environment outside the aircraft including determining the position thereof in three-dimensional space, a display means, a navigation calculator including a processing unit configured to operate as an interference calculator, a first memory for storing a constructed route and a second memory containing a model of the terrain to be overflown, wherein the navigation calculator is configured to construct a route for the aircraft, cause the aircraft to follow the route, calculate

interference between the route and a model of the terrain being overflowed using parameters relating to the aircraft and the environment outside the aircraft, from the interference determine and display a safe route, in all types of weather and at any location, by additionally acquiring additional parameters relating to the terrain overflowed, while performing the operations of verifying the safety of the actual trajectory of the aircraft, verifying the safety of the aircraft relative or with respect to any other aircraft, and providing display or assistance in perception of the interference to the operator or pilot, while further including interactive graphic route reconstruction on the display and actuated by an operator to progressively display a safe route using the first memory and which is displayed on a piloting screen.

Naimer et al. discloses a flight plan information system in which figure 1 shows the use of a terrain database (20), working memory (22) and program memory (24), as well as aircraft sensors (18), a flight management system (16), a display and alerting driver (26) and a flight deck display and alerting system (28). The abstract of Naimer et al. discloses that the flight plan information is in the form of a series of waypoints (initial segments between said waypoints) having attributes such as latitude, longitude, altitude constraints by which a flight path is modeled or constructed, and that this flight path model is checked against terrain information to locate instances in which a potentially unsafe condition exists. It is further disclosed that while in flight the path model is updated with the position of the aircraft and that in the event of a potentially unsafe flight altitude is detected an alert may be issued to the flight crew. Steps 50 and 52 show the ability of the pilot to initiate a flight plan change, where at least steps (62, 64, 54) of figure 3 show calculating altitude difference for a given flight path constraint and the terrain below. The flight management system is discussed from col. 1, line 46 through col. 2, line 53, in which the use of text data, images or image overlays is taught as

part of the flight management system, as well as the use of inertial navigation global positioning systems (col. 2, ll. 37-48) for determining the exact position of the aircraft with respect to a maximum allowable deviation from a flight path. Column 6, lines 5-46 further teach the types of flight path alerts which would be displayed or presented by Naimer et al. to provide an alert graphic or message along a flight path, and that terrain altitude could also be displayed along with an approximation of the terrain over which the airplane is passing, as well as the use of color. However, Naimer et al. does not address the issue of verifying the safety of the actual aircraft trajectory relative to other aircraft.

Pratt et al. discloses a system of hazard detection for a modeled flight plan similar to that of Naimer et al., except that the abstract of Pratt et al. also teaches recognition of moving hazards in which both trajectories are seen to potentially overlap in space and time with other aircraft (col. 3, ll. 50-54).

Accordingly, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have additionally implemented the aircraft collision warning system of Pratt et al., within the context of the flight plan alerting system of Naimer et al., because both make use of position checking systems with respect to a hazard database where the terrain database of Naimer et al. would be supplemented by the moving hazard/tube model of Pratt et al.

### ***Response to Arguments***

3. Applicant's arguments with respect to claims 15-16 have been considered but are moot in view of the new ground(s) of rejection.

The previous rejection under 35 U.S.C. 112 1<sup>st</sup> has been withdrawn in view of Applicant's amendments and remarks.

***Conclusion***

4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to EDWARD PIPALA whose telephone number is (571) 272-1360. The examiner can normally be reached on M-F 9:30 - 6.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jack Keith can be reached on 571-272-6878. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Edward Pipala/  
Examiner, Art Unit 3663